JARVIS. (W. C.)

Notes on a Case of Nasal Caries

Complicated with Meningitis, Successfully treated by means of the Surgical Drill.

READ BEFORE THE AMERICAN LARYNGOLOGICAL ASSOCIATION AT THE FIRST NATIONAL MEDICAL CONGRESS, 1888.

presented by the author.

By WILLIAM CHAPMAN JARVIS, M.D.,
PROFESSOR OF LARYNGOLOGY AND DISEASES OF THE NOSE AND THROAT IN THE NEW YORK UNIVERSITY MEDICAL COLLEGE.

Reprint from THE MEDICAL REGISTER, February 2, 1889.

PHILADELPHIA:
RECORDS, McMULLIN & CO., LIMITED.
1888.

NOTES ON A CASE OF NASAL CARIES,

COMPLICATED WITH MENINGITIS, SUCCESSFULLY TREATED BY MEANS OF THE SURGICAL DRILL.

(Read before the American Laryngological Association at the First National Medical Congress, 1888.)

By WILLIAM CHAPMAN JARVIS, M.D.,
Professor of Laryngology and Diseases of the Nose and Throat in the New York University Medical College.

OF the several reasons which have prompted the preparation of this paper, I shall only notice the most important, namely, the extreme rarity of the meningeal complication, announced in my title, as a result of syphilitic disease of the nose, the absolute uniqueness of my own case in regard to its course and termination as proved by medical literature, and, finally, the opportunity afforded to construct a precise and systematic plan for the successful treatment of similar cases and their numerous modifications.

In regard to my statement concerning the rarity of the meningeal complication, it may be well to explain, that a diligent search into the literature of the subject resulted in the discovery of but a single case, namely, the one reported by Trousseau, also referred to by Sir Morell Mackenzie in his work on the "Nose and Throat." This instance, cited by Trousseau, was that of an English officer, "who had a sudden, terrible suffocative attack, caused by the presence in

the posterior nares of a foreign body, which had subsequently fallen into the throat. In the midst of his suffocative convulsion, he seized with his fingers and finally drew forth a large irregularly-shaped and rough-edged piece of the ethmoid bone. On the same day cerebral symptoms supervened, under which he died within twenty-four hours." A. Trousseau, "Lectures on Clinical Medicine," Vol. III, p. 66.

The following is the history of my own case, extracted from my note book, a number of unimportant details being omitted in the text:

Mr. M., an intelligent, well born gentleman, aged thirty-one, after consulting a number of physicians for relief from a severe nasal disease, and obtaining no satisfaction, finally sought the advice of Dr. Hubbard, of New York, who promptly referred him to me for treatment. The nasal disease for which the patient consulted us had, through neglect and maltreatment, so completely undermined his health and shattered his nerves that it was found necessary to resort to the liberal use of morphine, to enable him to traverse the distance (about thirty miles) intervening between his home and the city. The symptom most complained of was a severe headache, which had harassed him almost continuously for about five months, and, despite the assiduous use of opiates, he had been able to procure but little rest. The pain in the head was for the most part referred to the temporal region, and associated with it there was marked tenderness of the scalp, evinced when slight pressure was exercised. A minor, though at times exceedingly annoying symptom, tinnitus aurium, was also present. Much discomfort was caused by the constant accumulation in the nares, and gravita-

tion into the throat, of masses of green crusts, the removal of which provoked an offensive stench, causing much distress to the patient and those in his immediate neighborhood. In addition to the discharges of putrefactive matter from the anterior and posterior nares, the patient noticed that upon forcibly blowing the nostril, some fetid fluid issued through a small perforation in the palate near the sockets of the central incisors. The great loss of flesh occasioned by the nasal putrefactive changes, and the destructive process permitted to go untreated for so many months, had reduced the unfortunate man to a state of extreme emaciation. Much valuable time, it was learned, had been lost by the sufferer's worse than useless effort to procure relief from the so-called compound oxygen treatment. Inquiries naturally directed to the discovery of syphilis as affording a possible clue to the peculiar morbid manifestations, elicited the fact that the patient had been treated for a venereal affection several years since; he, however, claimed that the physician had pronounced the trouble of a mild type, presumably a chancroid. The statement that catarrh had existed as far back as the memory of the patient could reach merits mention, inasmuch as it throws some light upon the etiology of the nasal lesion.

External Inspection.—Inspection of the external nose afforded no evidence of the character or extent of the morbid process within the nostril. Beyond the existence of a marked deflection of the cartilaginous septum, always demonstrable when present by the practice of palpation, there were no external signs of intranasal disease.

Internal Inspection.—An anterior rhinoscopic ex-

amination revealed the triangular cartilage of the septum impacted against the left lateral nasal wall. Its contour, furthermore, had been almost obliterated by reason of two large vertical apertures, the intermediate remnant of cartilage corresponding to the middle of the most prominent point of the deflected structure. The edges of these pathological openings were encrusted with a sanguineous mucopurulent matter, which when removed showed the margin of the lower or larger orifice to be in a state of advanced ulceration. The turbinated tissues proper had evidently long since vanished. The location of the left inferior erectile structure was marked by the presence of a spongy mass of carious bone corresponding to the inferior crescentia. The base of this blackened mass of the necrotic bone was dotted with islands of granulation tissue, which afforded excellent evidence of a natural tendency towards recovery or repair. The same morbid peculiarities, slightly modified by the difference in location, were visible within what once formed the space of the right anterior nares, converted now, however, by reason of the destruction of the party wall between it and the neighboring nasal fossa into a single capacious cavern. As far as vision and the probe could reach, evidences of destruction and local death were discoverable. The occasional presence of reddish discolorations indicated the recent involvement of bloodvessels. With particular vehemence did the disease appear to exert itself upon the floor of the nose. Such an idea was encouraged, perhaps, by reason of this point being particularly favorable for the practice of intranasal inspection.

Completely denuded of its mucous membrane, the carious bone was distinctly visible in the form of an

excavation, most marked along the median line of the nasal floor. At a point about two or three millimetres distant from and directly behind the columna, this depression appeared deepest, and probing demonstrated this to be the point of communication between the mouth and the nasal chambers through the perforation I have already alluded to, found in the hard palate near the upper alveolus.

Etiology and Diagnosis.—In view of the evidence, historical and symptomatic, reinforced by the pathological findings I have just enumerated, not to mention minor points of a similar character, I decided the destructive process within the nasal chambers to be the result of a long standing ulcerative and necrotic process due to syphilis, and that the head symptoms were the manifestations of an attack of meningitis, set up by the extension of the nasal disease into the brain through the cribriform plate of the ethmoid, or at some equally vulnerable point in the roof of the nose. It is highly probable that this tertiary process selected as a starting point, the cartilaginous septum as a point of minor resistance, it being as actually indicated by the deviation of this structure[1] the centre of an already existing catarrhal disease. The appearance, consistency, and inclination of the septum, likewise the formation of the structures in its immediate neighborhood, convinced me that the abnormal position of what then remained of this support could not be entirely attributed to depression from weakening of the nasal partition, for,

---

[1] The Etiology and Treatment of Nasal Catarrh, with Special Reference to the Deviated Septum, by W. C. Jarvis, M.D. *Medical Record*, March 14, 1885.

as I have already indicated, despite the widespread ravages occasioned by the ulcerative process, no depression of the external nose was visible, the nasal bone fortunately having escaped destruction.

Treatment.—The most important therapeutic indications which, in my judgment, appeared immediately necessary, were antisyphilitic medication anodynes for the painful head symptoms, and appropriate local treatment of the nasal cavities; these measures were rendered all the more urgent by reason of the lamentable state of neglect into which the patient had fallen in regard to the care of the nostril. Aside from the usual spasmodic efforts practised to expel the masses of inspissated matter which rapidly and persistently formed in the nostrils, strange to relate, no systematic effort had been employed to remove the intranasal accumulations, or to mitigate the intolerable stench. I at once had recourse to the post nasal syringe, and by the liberal use of antiseptic washes, combined with the assiduous employment of the cotton probe, I succeeded in placing and keeping the nasal chambers in a state of comparative cleanliness. Large, offensive crusts, composed of particles of necrotic bone and tissue, mingled with decomposing purulent matter, were effectually removed from the nostril, their reformation being prevented by persistent treatment.

The ulcerated carious and necrosed surfaces laid bare by the employment of these measures, were carefully covered with a film of finely pulverized iodoform, the even distribution of this impalpable powder being insured by the use of an insufflator, constructed in accordance with the principle of Dr. Ely. By employing iodoform in this way the mechanical irritation consequent to the application of the powder in bulk was

avoided, and, I believe, from clinical observation, that a beneficial healing and quieting influence was exercised by the drug, and am convinced, from experimental experience, that the iodoform acted as a valuable antiseptic.

Despite the local benefit derived from this plan of treatment, combined with the adoption of careful constitutional and anodyne measures, the cerebral symptoms increased alarmingly in their severity. Convinced now that the meningitis had assumed an acute and exceedingly serious type, I mentioned my fears to members of the family, and favored the plan of holding a consultation with Dr. Alfred Loomis. Dr. Loomis expressed even graver views concerning the severity of the meningeal disease, believing it to be probable that the patient would not survive more than twelve days. This highly unfavorable prognosis given by such an eminent authority obviously lends an additional interesting feature to the case, successfully treated under such adverse circumstanees.

In accordance with Dr. Loomis's suggestion, the dose of the potassium iodide was increased from twenty to sixty grains three times a day. Thanks, I believe, to the patient's ability to tolerate this free dosage of the iodide, combined with the most careful nursing, the serious menace to his life was, to our supreme satisfaction, happily averted.

After a gradual convalescence, extending over several weeks, during which the patient rallied completely from the attack, and was able once more to leave his home and return to my office for local treatment.

Inasmuch as the nasal cavities had been kept in a state of comparative cleanliness, it was now possible

to satisfactorily detect and reach the dead and carious bone. An examination of the teeth, near the perforation in the palate, revealed the fact that the sockets had been involved to such an extent as to render them loose and almost useless. Recourse was, therefore, had to a dentist, and I availed myself of the services of Dr. Rhein, who skilfully extracted two teeth with portions of the alveolus involved, making in all three removed. I then commenced an active surgical course of treatment, having for its object the total eradication of all the necrosed bone. A surgical engine of special design was employed by me for this purpose, which enabled me to effectively employ bone-drills of various forms and sizes.

Contrary to the teachings of the advocates of the tactus eruditus, my rule was to direct the burrs exclusively by the sense of sight, and I adopted as a precaution the maxim: "*Never to lose sight of the drill.*" Furthermore, my rule was to freely remove the carious and necrotic masses, and not to desist until a bleeding surface was clearly exposed to view. By the careful practice of this method of operating, I soon succeeded in eradicating every vestige of the dead tissues, and favored, partly no doubt by the improvement in the patient's general health, the thorough system of nasal irrigation and prompt response to internal and general alterative medication and the effective applications of iodoform, the wounded surfaces healed without accident.

The awkward gap occasioned by the removal of the teeth, and the necessarily free excursions of the drill along the floor of the nose and roof of the mouth, became contracted in the healing process, until it assumed the size of an insignificant orifice, connect-

ing the mouth with the nasal cavities. The ragged alveolar border, the former sockets of the disrupted teeth, became smooth and regular. It was deemed advisable not to permanently close this orifice, for the reason that it formed the base of a funnel-shaped depression in the floor of the nose, occasioned by the extensive implication of the bone in this region, which favored the gravitation and retention of the intranasal secretions. This artificial canal could be efficiently opened and closed at will by means of a closely fitting obturator, which formed part of the plate supporting the artificial teeth, so that the patient could eat without the slightest inconvenience, and when syringing the nostril was enabled, at will, to effectually flush the nasal gutters by allowing a portion of the fluid to flow into the mouth. This, in brief, formed the treatment adopted by me to meet the several requirements. The subsequent behavior of this singular case, and the character and permanency of the results obtained, can be better explained by quoting a short extract from a letter addressed to me by the patient, July 30, 1888, more than two years after he had received final treatment. He writes: "My general health was better after the healing of the diseased bone than for many years. I have not had a headache since June, 1886. Increased in weight from one hundred and ten to about one hundred and fifty pounds."

A few weeks since, July, 1888, the grateful patient called to place a friend under my care, and I found it difficult to recognize in the ruddy face of this active, vigorous, genial gentleman, the once loathsome, ostracised, and almost resurrected human wreck of two years before.

Conclusions and Remarks.—In concluding, I shall briefly carry out the text announced in my introductory sentence, by directing attention to certain deductions drawn from the history and behavior of this remarkable case. In the first place, I believe it may be viewed as an example of the deplorable consequences, likely to result from neglect or maltreatment, as found by the preliminary examination and the patient's history. While it is true that nasal caries or syphilitic disease of the nose, as a rule, does not exhibit the same degree of destruction, as in the case just cited, it is nevertheless often true that the severity and extent of the nasal disease is often proportionate to its chronicity or neglect. Aside from the meningeal complication, a feature, possibly, less rare (judging from the history of certain headaches), at least in its milder form, than we really suspect, there is always present a sequestrum of dead bone, and the prominent symptom, ozæna, with its baneful effects, which must claim a large share of the surgeon's attention. The excellent results attained by active, surgical interference in this case, should, it seems to me, serve as a warning against the prevalent practice of temporizing with this class of patients, which usually assumes the shape of an effort, and as far as it goes, a truly laudable one, to place the patient and his nostril in the best hygienic condition, a result usually accomplished by means of the free use of antiseptic nasal washes, and appropriate general medication. While this course under the plea of favoring or awaiting the safe and easy, though extremely slow exfoliation of the central, local cause of the disease, the sequestrum, may be in order, it obviously

fulfills only part of the requirement. In its literal acceptation, this doctrine is little more nor less than a delusion. Cases constantly occur where many years are required to develop this utopian result; indeed, this carious condition of the nasal skeleton sometimes exhibits a decided disposition to persist during the remainder of the individual life. These and other reasons should urge us to actively interfere in such cases; no time being lost in inaugurating an efficient system of antiseptic cleansing, having for its object the thorough renovation of the nasal gutters, and the mitigation of the offensive effluvia. Once this sanitary requirement satisfactorily accomplished, the efforts of the operator will be greatly expedited by the freedom of the field of operation from crusts and the general purification of the nasal atmosphere. As is well known, the advance of the local necrotic process is usually painless, and the behavior of the case just reviewed, demonstrated that cocain and care renders the cutting procedure almost, if not entirely, painless.

In regard to the mechanical therapeutics, I now would favor the abandonment of the surgical engine, employed, as just described by me, for the electric motor. The latter device enables one to dispense with the services of a skilled assistant, a consideration with the infrequent operator, and a matter of greater importance, it offers, in many respects, a more convenient and reliable means for propelling nasal drills.

It would be foreign to my subject to enter into a description of the electric motor operative system, perfected by me for the correction and cure of the

various forms of deflected septa in a finished and satisfactory manner.[1]

I shall, however, briefly remind you that this motor, introduced by me, known as the C and C, already enjoys an excellent reputation, in regard to its utility, for the purpose I have named, and that, too, in the hands of specialists, who had previously employed entirely different instruments of this kind. My electromotive force is now exclusively derived from the Gibson storage cell, which a somewhat extended experience has induced me to view as the most powerful, reliable, and in the long run, the cheapest device obtainable for combined, cautery, illuminating, and motor purposes.

The antiseptic tubular nasal drills, devised by me to cut away osseous septal spurs and distortions of the vomer will be found serviceable for the enucleation of the necrotic or carious centres in tertiary disease, and particularly the antiseptic syphon drill, which, by washing away the detritus resulting from the cutting, insures a perfectly clear field before the advancing drill.

Finally, thanking you for your kind attention, I shall close, expressing the hope that you will give this radical method a careful trial, in which event I am confident that you will become convinced of its unquestionable applicability for all forms of syphilitic disease of the osseous structures of the nose.

25 East Thirty-first Street.

---

[1] A Novel System of Operating for the Correction of the Deflected Septum, *Medical Record*, April 9, 1887.